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The effects of motivation on the interpretation of nonverbal behaviors.

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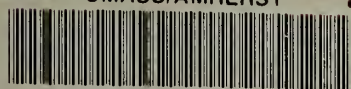
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THE EFFECTS OF MOTIVATION ON THE
INTERPRETATION OF NONVERBAL BEHAVIORS

A Thesis presented

by

DANIEL HRUBES

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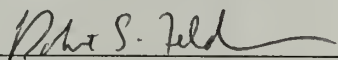
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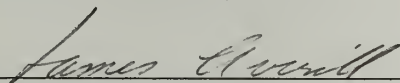
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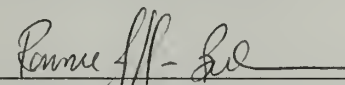
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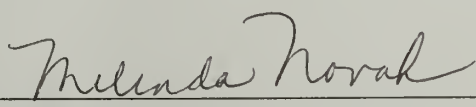

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CHAPTER 1

INTRODUCTION

A great deal of information relevant to making judgments about people may be gained by watching them talk. A speaker's message is made up of a complex arrangement of parallel channels which vary in degrees of interdependence and which are capable of simultaneously accomplishing multiple interaction goals (Burgoon, 1985; Knapp, 1978). One important source of information in a speaker's message is the speaker's nonverbal behavior. Indeed, some researchers suggest that nonverbal behavior is much more important than verbal behavior in determining social meanings (Burgoon 1985, 1994; Capella & Palmer, 1989).

Burgoon (1985) states that "...a receiver has a wealth of information in the stimulus complex from which to extract the totality of meaning. This adds to the communicative power of nonverbal signals." (p352). This complex array of nonverbal information has been categorized in many ways. One of the most widely accepted categorizations was put forth by Ekman & Friesen (1969). They defined five categories of nonverbal behavior: emblems (nonverbal displays that symbolize specific meanings and have exact verbal translations); illustrators (nonverbal displays that are closely tied to speech and serve to illustrate and clarify the verbal portion of a message); regulators (nonverbal displays that maintain and control the flow of conversation); affect displays

(nonverbal displays that indicate emotional states); and adaptors (nonverbal displays, such as self-touching, that are usually done unconsciously). These types of nonverbal behaviors, in turn, can be transmitted across one or more nonverbal channels. A conservative list of these channels includes face, gaze, vocal, posture, hand gesture, and touch.

Judgment Domains Influenced by Nonverbal Behavior

A substantial amount of research has been done investigating the effects of these categories and channels of an individual's nonverbal behavior on the judgments and attributions made by observers. For example, research indicates that gaze influences judgments of dominance (Thayer, 1969), power (Dovidio & Ellyson, 1982), deception (Vrij & Semin, 1996), and affiliation (Thayer & Schiff, 1973); facial expression influences judgments of emotion (Darwin, 1872/1965; Ekman, 1994; Gosselin et al., 1995), dominance and affiliation (Knutson, 1996), and interpersonal warmth (Bayes, 1972); gestures influence judgments of aggressiveness (Rose & Tryon, 1979) and deception (Vrij & Semin, 1996); body posture influences judgments of likability (Mehrabian, 1969); head nods influenced ratings of attraction (Rosenfeld, 1966); and vocal qualities influence judgments of emotional type and intensity (Davitz & Davitz, 1959; Scherer, 1981), dominance and warmth (Berry et al., 1994), and deception (Vrij & Semin, 1996). This body of research demonstrates that many different kinds of inferences about an individual can be influenced by that individual's nonverbal behavior. In addition

to demonstrating the important role that nonverbal behavior plays in social judgments, these studies also demonstrate that it is possible for individual nonverbal behaviors to have a multiplicity of meanings. A specific nonverbal behavior, such as a facial expression, may be interpreted as either an illustrator, a regulator, or an affect display. The meaning of any specific nonverbal behavior, therefore, can only be interpreted in the context of other available communication information as well as information regarding the situation in which the communication occurs (Friedman, 1979; Knapp, 1978; Scherwitz & Helmrich, 1973).

Two contextual features that seem like obvious candidates for factors that might influence the interpretation of nonverbal behavior are the verbal portion of the message and the goals of the observer. The nature of the relationship between the verbal and nonverbal behavior of a speaker in influencing the judgments made by an observer seems to be quite complex. Existing research indicates that the effects of nonverbal and verbal behavior interact to influence message meaning. Friedman (1979) found that when high school students made judgments about the characteristics of a teacher based on stimulus materials consisting of photographs of facial expressions paired with different typed verbal statements, students' judgments varied as a function of interactions between the facial expressions and verbal statements. Similarly, Ellsworth and Carlsmith (1968) found that the effects of gaze on judgments of likability were moderated by the verbal content attending the gaze behavior. With verbal content consisting of indirect positive information about the subjects, high eye contact led subjects to judgments of greater liking than low eye contact. Conversely, with verbal content consisting of indirect

negative information about the subject, high eye contact produced judgments of less liking than low eye contact. The interaction effects of gaze behavior and valence of verbal content varies across topic domains and interaction circumstances as well. The above interaction effects reverse if the verbal content consists of a direct personal evaluation of the subject by a confederate (Scherwitz & Helmreich, 1973). These findings suggest that the content of the verbal portion of the message is an important element of the communication context that influences an observer's interpretation of the meaning of nonverbal behaviors. Yet, much of the research investigating the influence of nonverbal behavior on judgments has been conducted in the absence of a verbal channel. One of the goals of this study, therefore, is to investigate the effects of speakers' nonverbal behavior on judgments made by observers when the nonverbal behavior is observed in the context of a verbal message.

Most of the research cited above investigated the effects of nonverbal behavior on judgments in interpersonal or relational domains. Indeed, some nonverbal researchers explicitly limit their claims about the influence of nonverbal behavior on judgments to interpersonal domains (Burgoon, 1994). Little work has been done investigating the effects of a speaker's nonverbal behavior on inferences about that speaker's attitudes towards attitude objects other than people (e.g. consumer goods, political issues, etc.), yet these attitudes, theorists argue, play a central role in determining behavior. (Eagly & Chaiken, 1993; Petty, Wegener, & Fabrigar, 1997). In fact, most research investigating how individuals make judgments about another's attitude characteristics towards an attitude object has ignored nonverbal behavior completely (Eagly & Chaiken, 1993).

Given the importance of being able to determine the attitudes of another person, it seems likely that observers would make use of a speaker's nonverbal displays when attempting to gain insights into the speaker's attitude characteristics even if the attitude in question was not interpersonal.

Another goal of this study, therefore, is to investigate whether nonverbal behavior influences observer's judgments about the characteristics of a speaker's attitudes concerning issues that are other than interpersonal. Since the verbal channel of a message may act to contextualize any accompanying nonverbal behaviors, it seems intuitive that observers' would evaluate the nonverbal behaviors accompanying the verbal statements of a speaker's attitude as diagnostic of that speaker's attitude. In terms of Ekman and Friesen's (1969) classifications, such nonverbal displays might be interpreted as illustrators and affect displays associated with the verbal message. For example, an observer might interpret a speaker's changes in voice volume and pitch as indicative of how strongly the speaker feels about the message topic or how important that message topic is to the speaker. Recent research using a confederate engaging in posed nonverbal displays has demonstrated that observers' judgments about a speaker's attitude strength concerning capital punishment are, in fact, influenced by nonverbal behavior (Hrubes & Feldman, 1997). It remains to be determined if differences in a naive speaker's spontaneously occurring nonverbal behavior influences observers' judgments of that speaker's attitude. One hypothesis, therefore, is that variations in the frequency and intensity of a speaker's nonverbal displays will influence an observer's judgments about the characteristics of that speaker's attitude.

The Influence of Motivation

Another important element of the communication context consists of the goals or motivations of the person observing a speaker. The social cognition literature suggests that what information is selected for attention, how intensely it is attended to, how it is interpreted, and how it is remembered are all strongly affected by the processing goals of the perceiver (Cohen, 1981; Cohen & Ebbesen, 1979; Srull & Wyer, 1986). Research suggests that these motivation effects may be caused by different interpretive schemas being activated by the goals of the observer (Cohen & Ebbesen, 1979; Fiske & Taylor, 1991).

If observers' motivation is an important element of the communication context, then observers' motivation should be one of the factors that guide the interpretation of nonverbal behavior. To date, no reported research has targeted the relationship between observer motivation and judgments about speakers' nonverbal behavior. The third goal of this study, therefore, is to investigate the effects of different observer motivations on the interpretation of nonverbal behavior.

Giving observers different goals should lead to variations in the activation level of goal-relevant interpretive schemas. This, in turn, should influence the frequency with which observers make different types of goal-related attributions. For example, an observer with an impression formation goal might interpret a specific nonverbal

behavior, such as extended eye contact, as indicative of the speaker's disposition.

Alternatively, an observer with a message evaluation goal, might interpret the same nonverbal behavior as indicative of either the quality of the message being sent or the speaker's skill as a communicator. Another hypothesis to be tested, therefore, is that observers given an impression formation goal will make more unprompted attributions regarding traits than observers with a message evaluation goal. Similarly, observers who are given a message evaluation goal will make more unprompted attributions about the message than observers with an impression formation goal.

The variation in schema activation levels associated with different goals should also influence the effects of different magnitudes of nonverbal behavior. For example, observers with an impression formation goal might view relatively high frequencies of direct-gaze behavior as indicating greater dominance in the speaker while observers with a message evaluation goal might view the same relatively high levels of direct-gaze behavior as improving the quality of the message presentation. A third hypothesis, therefore, is that variations in the frequency of nonverbal behaviors influence the trait attributions of observers with an impression formation goal more than the trait attributions made by observers with a message evaluation goal. Similarly, variations in the frequency of nonverbal behaviors influence the message attributions of observers with a message evaluation goal more than the message attributions of observers with an impression formation goal.

CHAPTER 2

EXPERIMENT 1

Overview

The present study investigated the effects of two factors, a speaker's nonverbal expressiveness and an observer's motivations, on a series of judgments made about the speaker. The study was conducted using the cover story of research into the effects of video technology on communication. Participants were given either an impression formation goal or a message evaluation goal before viewing one of several short video-taped opinion statements made by other students regarding a proposed fee increase at another university. The video-clips were created using a novel method that enabled a naive speaker's verbal message to be controlled while capturing unprompted variations in their nonverbal behavior. After watching the video participants completed ratings of the speakers attitude, personality traits, and message quality.

Method

Participants

Seventy-three female volunteers at the University of Massachusetts participated in this experiment in return for class extra credit. The participants were randomly assigned to one of four between-subjects experimental conditions in a 2 (high vs. low

nonverbal expressiveness) x 2 (impression formation vs. message evaluation) design. The original design included an exploratory 'no-motivation condition'. This condition was not involved in any of the hypotheses and was subsequently dropped.

Stimulus Materials

The stimulus materials consisted of two sets of video-tapes showing female students reading a prepared position statement about a college issue. Stimulus set one (high nonverbal expressiveness) consisted of three tapes, each one of which showed a different female student reading the position statement while displaying a relatively high frequency of nonverbal behaviors such as facial expressions, direct eye contact, and vocal pitch and volume changes. Stimulus set two (low nonverbal expressiveness) consisted of three tapes, each one of which showed a different female student reading the position statement while displaying a relatively low frequency of these nonverbal behaviors. The prepared position statement read was identical in all stimulus tapes and argued against a fictitious proposed fee increase at an Ivy League University (see Appendix A). All of the video clips were approximately 30 seconds in length.

Creation of stimulus materials. The individual tapes used were selected from a set of tapes created for this study. Speakers reading the position statement were naive female undergraduate volunteers who received class extra credit for their participation. These individuals read a brief article about a fictitious fee increase. They were interviewed in order to determine their attitude towards the fee increase and then asked

to read a prepared position statement that was in agreement with their attitude while being videotaped. Only individuals who agreed that the position statement was a fair representation of their personal attitude were videotaped. These speakers were told that they were being videotaped while expressing their attitudes as part of a communication study. Further, they were told that their audience would be groups of incoming freshman. Speakers were encouraged to communicate as naturally as possible while reading the position statements but were given no prompting regarding nonverbal behaviors.

Once a pool of stimulus videos was created the set of tapes was screened to eliminate those that contained speech errors, unscripted statements, individuals wearing hats, or individuals with a foreign accent. Four judges rated still images of the remaining speakers for characteristics other than nonverbal behavior that might influence judgments. These characteristics included attractiveness, sincerity, and dominance. The speakers' videotaped statements were then rated by judges for nonverbal expressiveness. The remaining tapes were divided into high nonverbal expressiveness and low nonverbal expressiveness groups using a median split. Speakers rated as most extreme in each set were eliminated from consideration and three tapes from each group were selected from among those that remained. The two sets of tapes were selected so that the set averages on the judges ratings of attractiveness, sincerity, and dominance matched as closely as possible.

Procedure

Participants participated in this study either alone or in pairs that were separated by a partition. After arriving at the laboratory participants read and signed the following consent form:

“The purpose of this study is to investigate the effects of video technology on the communication process. Your tasks will include watching a video of a speaker talking about a social issue and then filling out a questionnaire about the video.”

The experimenter informed participants that they would watch a video of a fellow student stating her view on a proposed fee increase at Brown University. Participants were then taken to a viewing room, instructed on the use of the video equipment, and seated in front of a video monitor.

Motivation induction

After arriving at the viewing room, participants read a short description of the videotape along with a set of viewing instructions. The viewing instructions contained the motivation manipulation.

Impression formation. Participants in the impression formation condition were reminded that people behave differently in different situations and then instructed to determine what the speaker might be like, not just in this situation, but in her everyday life. In order to induce the participants to attend to the presented stimuli as closely as possible, these participants additionally read:

“In order for the study to be effective it is extremely important that you try to form as accurate an impression of the woman as possible”.

Message evaluation. Participants in the message evaluation condition were directed to evaluate the strength and effectiveness of the speaker’s message. Participants were reminded that the strength of the message depended, in part, on how it was presented. In order to induce these participants to attend to the presented stimuli as closely as possible, these participants additionally read:

“In order for the study to be effective it is extremely important that you be as accurate as possible in evaluating the speaker’s message”.

After the participants read the motivation manipulation, the experimenter started the videotape and left the participants alone to complete the experiment. Upon conclusion of the video, participants completed a questionnaire containing the dependent

measures (see Appendix B). When the questionnaire was completed the experimenter returned to debrief and excuse the participants.

Dependent Measures

Assessing unprompted judgments. The first question that all participants answered was the following open-ended question designed to assess their unprompted judgments about the videotape: “What are you thinking about the speaker and her message? Please write down anything you are and have been thinking about.”

Assessing judgments of speaker’s attitude. Three items were used to assess judgments about the speaker’s attitude characteristics. Judgments of the speaker’s position regarding the fee increase were assessed using a categorical item requiring participants to determine whether the speaker was in favor of or against the proposed fee increase. Judgments about the speaker’s attitude strength were assessed using a nine-point unipolar scale with endpoints not at all strong/extremely strong. Judgments of the speaker’s involvement with the issue were assessed using a nine-point unipolar scale with endpoints not at all important/extremely important.

Assessing judgments of speaker’s traits. Four items were used to assess judgments about the speaker’s personality traits. Judgments about the speaker’s level of friendliness, warmth, assertiveness, and extroversion were assessed using nine-point unipolar scales with the endpoints not at all/extremely. These items were

counterbalanced with message evaluation items to create two forms of the dependent measure questionnaire.

Assessing message evaluations and speaker's skill. Ratings of the speaker's message and quality of presentation were assessed using five nine-point unipolar scales with the following endpoints: not at all persuasive/extremely persuasive; not at all strong/extremely strong; not at all effectively/extremely effectively; not at all skilled/extremely skilled; not at all dynamic/extremely dynamic.

Assessing judgments of speaker's state. Measures were included to explore the effects of speaker nonverbal behavior and observer goals on judgments about the speaker's state. Four nine-point scales were included to assess participants' judgments of the speaker's state while speaking. These included two unipolar scales with endpoints not at all aroused/extremely aroused, not at all anxious/extremely anxious, and two bipolar scales with endpoints extremely negative/extremely positive, extremely submissive/extremely dominant.

Assessing participant's attitude characteristics. Exploratory measures were also included to assess the effects of speaker nonverbal behavior and observer goals on the participant's attitude characteristics regarding the proposed fee increase as well as the participants' judgments about their peer's attitudes towards the fee increase. Three items assessed the participants' attitude characteristics and three items assessed the participants' ratings of the attitudes of their peers. These items were similar in form to the items used to assess judgments of the speaker's attitude.

Method of analyses

A chi-square was used to test the hypotheses that the proportion of participants in the impression formation condition making spontaneous trait attributions would be greater than the proportion of participants in the message evaluation condition making spontaneous trait attributions. A chi-square was also used to test the hypotheses that the proportion of participants in the message evaluation condition making spontaneous message attributions would be greater than the proportion of participants in the impression formation evaluation condition making spontaneous message attributions.

Planned contrasts were used to test the hypotheses that nonverbal behavior influenced judgments of attitude strength with observers in the high nonverbal expressiveness condition judging the speaker's attitude to be stronger and more important than the speaker's attitude judged by observers in the low nonverbal expressiveness condition.

Planned contrast were also used to test the hypotheses that nonverbal behavior had greater effects on the trait attributions of participants in the impression formation condition than on the trait attributions made by participants in the message evaluation condition and also that nonverbal behavior had greater effects on the message attributions of participants in the message evaluation condition than on the message attributions made by participants in the impression formation condition. Because the direction of all contrasts was predicted by the relevant hypotheses, one-tailed t-tests were used.

Analyses of variance with nonverbal expressiveness (high vs. low), and goals (impression formation vs. message evaluation) as between subjects factors were conducted to investigate the influence of nonverbal expressiveness and goals on the exploratory measures of participants' judgments of the speaker's state while speaking and participants' own attitude characteristics.

Results

Manipulation checks and preliminary analyses

Check on attitude direction argued in speech. In order to insure that the participants understood that the speaker was against the proposed fee increase their responses to the categorical attitude position question were inspected. Ten participants were dropped from the analyses because they erroneously indicated that the speaker argued in favor of the proposed fee increase.

Manipulation check. A categorical item in which participants indicated whether their primary task was to evaluate the message or the speaker's disposition served as a manipulation check to insure that participants understood the instructions. A chi-square analysis indicated that the goal induction was successful. Participants in the impression formation condition reported that their task was to determine what the speaker was like in her daily life with greater frequency (77%) than did participants in the message evaluation condition (3%), and participants in the message evaluation condition reported

that their task was to evaluate the speaker's message with greater frequency (97%) than did participants in the impression formation condition (23%), $X^2(1,63) = 33.22$, $p < .001$.¹

Question order effects. Preliminary analyses indicated that there were no effects of question order on the dependent measures so this factor was dropped from further analyses.

Individual speaker effects. To insure that any single speaker within either condition did not have more impact than the other speakers in that condition, preliminary ANOVAs with individual tapes as a between subject factor were conducted within each nonverbal condition. These analyses indicated that there were no significant effects of individual speakers on any of the dependent measures. This factor was dropped from all subsequent analyses.

Exploratory measures. Preliminary analyses on the exploratory measures of speakers' state and participants' attitude indicated no effect for either nonverbal expressiveness or goal on these measures. They will not be mentioned further.

Frequency of unprompted judgments

Participants' responses to the first question, which asked them to list any thoughts they had regarding the videotape, were coded by a judge for the presence of

¹ Results of the analyses did not vary when participants who responded incorrectly to the manipulation check were dropped.

two types of thoughts: thoughts concerning the speaker's personality traits, and thoughts concerning the quality of the message. Thoughts were coded as concerning personality traits if they referred to a characteristic of the speaker that would be considered stable across situations and not contingent on the message being presented. Thoughts were coded as concerning message evaluation if they concerned the strength of the argument or the speaker's style of presentation. As a reliability check, a second judge coded half of the responses for message evaluations ($r = .80$) and trait related thoughts ($r = .82$).

A chi-square analysis was conducted on the proportion of participants in each condition whose thoughts concerned the speaker's traits. The hypothesis that the frequency of spontaneous trait attributions made by participants in the impression formation condition would be greater than the frequency of spontaneous trait attributions made by participants in the message evaluation condition was supported. Participants in the impression formation condition were much more likely to list trait related thoughts (56%) than were participants in the message evaluation condition (16%), $X^2 (1, 63) = 9.29, p < .003$. Similarly, the hypothesis that the frequency of spontaneous message attributions made by participants in the message evaluation condition would be greater than the frequency of spontaneous message attributions made by participants in the impression formation condition was also supported. Participants in the message evaluation condition were much more likely to list message related thoughts (97%) than were participants in the impression formation condition (56%), $X^2 (1, N=63) = 12.08, p < .001$.

Impact of nonverbal expressiveness on attitude judgments

The hypotheses that relatively higher degrees of nonverbal expressiveness by a speaker would lead to judgments of higher attitude strength and greater attitude importance were not supported. A planned contrast revealed that the judgments of speaker attitude strength made by participants who viewed speakers engaging in relatively higher frequencies of nonverbal displays ($M=3.70$) were not significantly higher than those judgments made by participants who viewed speakers engaging in relatively lower frequencies of nonverbal displays ($M=3.39$), $t(59)=.620$, $p>.26$. Similarly, contrasts revealed judgments of speaker's attitude involvement made by participants who viewed speakers engaging in relatively higher frequencies of nonverbal displays ($M=4.37$) were not significantly higher than those judgments made by participants who viewed speakers engaging in relatively lower frequencies of nonverbal displays ($M=3.76$), $t(59)=1.32$, $p>.09$.

Impact of nonverbal expressiveness and goal on trait judgments

Planned contrasts on participants' judgments of the speaker's traits indicated that the hypothesis that nonverbal expressiveness would have greater effects on the strength of the trait attributions for participants in the impression formation condition than on the strength of the trait attributions for participants in the message evaluation condition was

not supported. Judgments of speaker warmth and friendliness made by participants in the impression formation condition were not influenced by levels of nonverbal expressiveness more than were the warmth and friendliness judgments made by those participants in the message evaluation condition, $t(60) = .77, p > .22$ and $t(60) = .95, p > .17$, respectively. Similarly, judgments of speaker assertiveness and extroversion made by participants in the impression formation condition were not influenced by levels of nonverbal expressiveness more than were the assertiveness and extroversion judgments made by those participants in the message evaluation condition, $t(60) = .28, p > .39$ and $t(60) = .35, p > .36$, respectively.

An exploratory between subjects 2 (high vs. low nonverbal expressiveness) x 2 (impression formation vs. message evaluation) multivariate analysis of variance (MANOVA) was conducted on the trait judgments. This analysis indicated that there was no significant main effect of goal on trait attributions $F(4,57) = 1.57, p > .19$. The analyses indicated that there was, however, a significant main effect of nonverbal expressiveness on trait attributions, $F(4,57) = 3.95, p < .007$. Follow-up contrasts investigating the nature of these effects indicated that on ratings of assertiveness, participants in the high nonverbal expressiveness condition rated the speaker as significantly more assertive than did participants in the low nonverbal expressiveness condition, $t(60) = 2.64, p < .012$ (see table 1 for means). Similar contrasts performed on the other trait judgments revealed no significant effects (all $p > .40$). Finally, the analysis indicated that there was no effect of the interaction between nonverbal expressiveness and goal on trait measures, $F(4, 57) = .25, p > .91$.

Table 1.

Mean trait ratings indicated by participants in each
nonverbal expressiveness condition

Trait	<u>Nonverbal Expressiveness</u>	
	Low	High
warm	4.11 ^a (1.70)	4.37 ^a (1.52)
friendly	4.15 ^a (1.78)	4.55 ^a (1.52)
assertive	2.69 ^a (1.76)	3.93 ^b (1.57)
extroverted	3.34 ^a (1.87)	3.72 ^a (1.57)

Note. Within measures, means with different superscripts are significantly different. Standard deviations are in parentheses.

Impact of nonverbal expressiveness and goal on message judgments

The hypothesis that nonverbal expressiveness would have greater effects on the message judgments of participants in the message evaluation condition than on the message judgments of participants in the impression formation condition was partially supported (see table 2 for cell means). Planned contrasts indicated that the hypothesis was supported for judgments of speaker skill, message strength, and level of dynamism in presentation, but not for judgments of message persuasiveness or effectiveness.

Table 2.

Mean message characteristic ratings of speakers with low and high nonverbal expressivity made by participants in each goal condition.

Nonverbal Judgment	Expressiveness	Goals	
		Impression Formation	Message Evaluation
skill	low	2.6 ^a (1.97)	1.4 ^b (1.09)
	high	2.4 ^a (1.59)	2.8 ^a (1.24)
message strength	low	3.6 ^a (2.15)	1.6 ^b (1.25)
	high	3.4 ^a (1.80)	3.1 ^a (1.80)
dynamism	low	1.8 ^a (1.67)	.8 ^b (.77)
	high	1.6 ^a (1.29)	2.2 ^a (1.64)
persuasiveness	low	2.9 ^a (2.41)	1.9 ^a (1.67)
	high	3.1 ^a (1.88)	2.7 ^a (1.84)
effectiveness	low	3.2 ^a (2.54)	1.9 ^a (1.15)
	high	3.1 ^a (1.73)	3.1 ^a (1.67)

Note. Within measures, means with different superscripts are significantly different. Standard deviations are in parentheses.

The judgments of speaker skill made by participants in the message evaluation condition were influenced by levels of nonverbal expressiveness significantly more than were the judgments of speaker skill made by participants in the impression formation condition, $t(60) = 1.96$, $p < .03$ (see figure 1). Similarly, the judgments of message

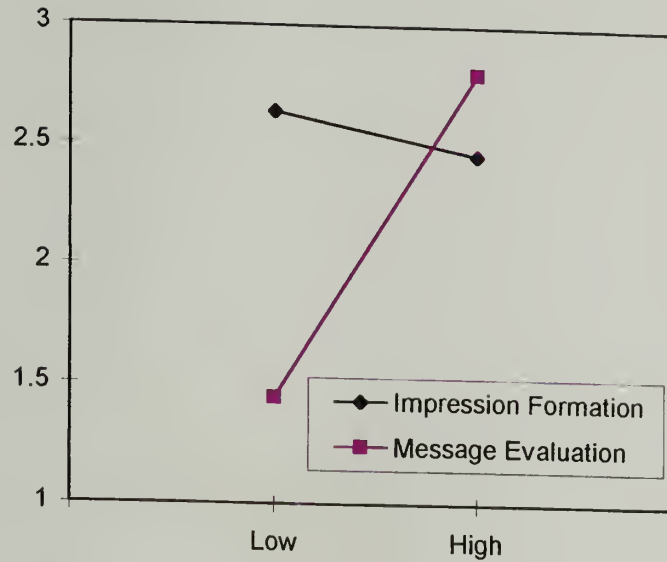


Figure 1. Mean ratings of speaker skill as a function of nonverbal expressiveness for observers with impression formation and message evaluation goals.

strength made by participants in the message evaluation condition were influenced by levels of nonverbal expressiveness significantly more than were the judgments of speaker message strength made by participants in the impression formation condition, $t(60) = 1.71$, $p < .04$ (see figure 2). Finally, the judgments of speaker dynamism made by participants in the message evaluation condition were influenced by levels of nonverbal expressiveness significantly more than were the judgments of speaker dynamism made by participants in the impression formation condition, $t(60) = 2.37$, $p < .01$ (see figure 3). The planned contrasts for judgments of message persuasiveness, and presentation effectiveness were not significant, $t(59) = .599$, $p > .30$ and $t(59) = 1.38$, $p > .09$ respectively.

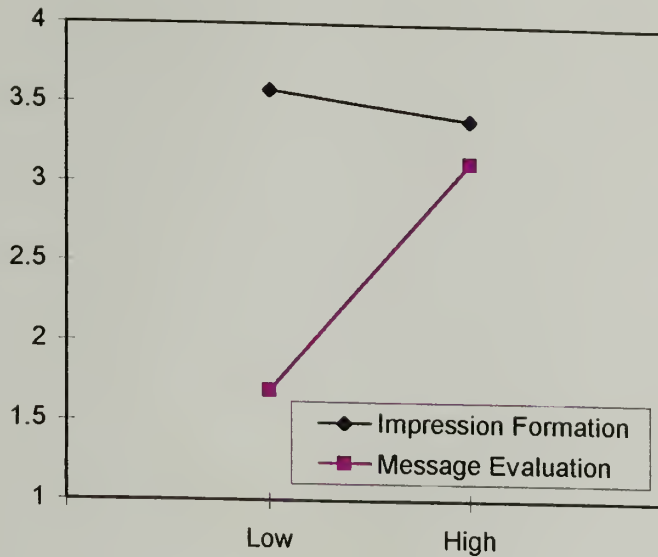


Figure 2. Mean ratings of message strength as a function of nonverbal expressiveness for observers with impression formation and message evaluation goals.

An exploratory two way multivariate analysis of variance with nonverbal expressiveness and goal as between subjects factor was also conducted on the message evaluation measures. This analysis revealed no main effect of nonverbal expressiveness, $F(5,55) = .87, p > .50$, or goal, $F(5,55) = 1.63, p > .16$, on the message evaluations. The analysis indicated, however, that the effects of the interaction between nonverbal expressiveness and goal was significant, $F(5,55) = 2.45, p < .05$. The univariate analysis of each dependent variable revealed that the interaction had significant effects on judgments of dynamism in speakers' presentation, $F(1,59) = 6.05, p < .02$, and speakers' skill, $F(1,59) = 3.99, p < .05$, but not for judgments of message strength, $F(1,59) = 3.11, p < .08$, presentation effectiveness, $F(1,59) = 1.9, p < .17$, or message persuasiveness, $F(1,59) = .36, p > .55$.

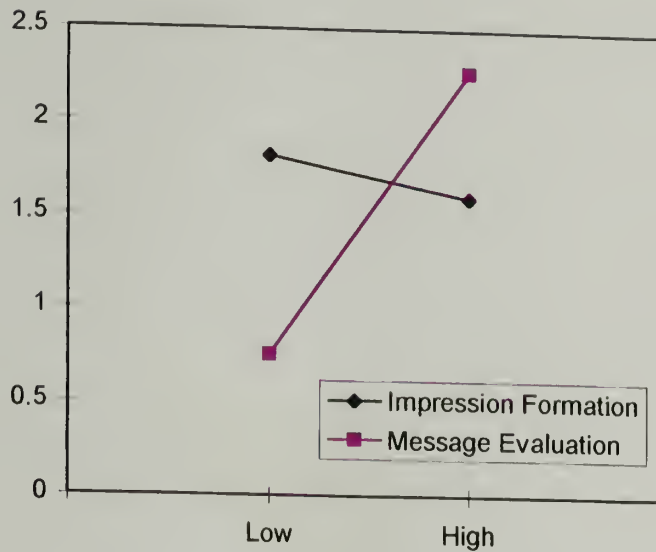


Figure 3. Mean ratings of speaker dynamism as a function of nonverbal expressiveness for observers with impression formation and message evaluation goals.

Discussion

The hypothesis that observer goals would influence unprompted attributions was supported. These findings support the idea that perceivers spontaneously think using goal related constructs when they are observing a speaker. This suggests a mechanism that might lead observers with different goals to come to different conclusions about the meaning of the nonverbal behavior of a speaker. These findings also serve as further verification that the goal induction did in fact engender the intended motivations.

The hypothesis that level of nonverbal expressiveness would influence judgments about the speaker's attitude characteristics was not supported. This prediction was based

on the proposition that the verbal portion of the message provides an important contextual cue that should influence how nonverbal behavior will be interpreted. This finding seems inconsistent with earlier findings that nonverbal behavior influences judgments about a target's attitude characteristics (Hrubes & Feldman, 1997). The lack of results, however, may be due to unintended experimental effects. It may be that the explicit goals of impression formation and message evaluation provided contextual factors for interpreting nonverbal behavior that diverted attention away from away from consideration of attitude characteristics.

Another possible explanation for the lack of effects of nonverbal expressiveness is that nonverbal expressiveness was influencing participant's attitude judgments, but the difference between stimulus conditions was too small to lead to differences in those judgments. A final possibility is that there were floor effects. More specifically, the frequency and intensity of nonverbal displays in both of the nonverbal conditions may have been too low to act as indicators of the speaker's attitude characteristics. However, these last two possibilities seem somewhat unlikely since the differences in nonverbal expressiveness were large enough to influence other judgments. It may be, rather, that certain kinds of nonverbal behavior are particularly effective in influencing attitude judgments. The differences between stimulus conditions in the frequencies of these specific behaviors may have been too low to lead to differences in attitude judgments. More specifically, from the perspective of Ekman & Friesen's (1969) classification system, it may be that variations between stimulus conditions in the frequencies of nonverbal illustrators and regulators occurred, but that no differences occurred in the

frequencies of affect displays. If affect displays are the primary nonverbal influence on observers' judgments of attitude strength while illustrators and regulators are the primary source of nonverbal influence on judgments of message quality, then there would be no difference in attitude judgments across stimulus conditions but significant differences in message judgments across conditions. This interpretation, however, is highly speculative because there has been no direct link established between any of these categories of nonverbal behavior and attitude judgments.

The hypothesis that different goals would lead to variations in the influence of nonverbal behavior on judgments received partial support. The fact that the message evaluation goal influenced interpretation of nonverbal behavior, while the impression formation goal did not, can be interpreted in several ways. One possibility is that the participants in the impression formation condition were not affected by the variations in nonverbal behavior at all. This interpretation is not parsimonious in light of the finding that the judgments of speaker assertiveness made by participants in the impression formation condition were influenced by nonverbal expressiveness. Another possibility is that the variations in nonverbal behavior occurred in categories that were diagnostic of message quality but not of personality characteristics other than assertiveness.

Following this reasoning, participants in the message evaluation condition would have focused their attention on specific nonverbal behaviors that varied across conditions while participants in the impression formation condition focused their attention on different nonverbal behaviors that did not vary across conditions. Finally, and more interestingly, contextual factors may have led observers to judge nonverbal behavior as

nondiagnostic of some of the traits. More specifically, since the observers were aware that the speakers were not speaking directly to anyone, it may be that characteristics such as warmth, extroversion, and friendliness were not considered. This effect need not have occurred at a conscious level; the absence of an audience may have led to the activation of a different interpretive schema than would have been activated if an audience had been present. This last possibility is obviously very speculative, but it is consistent with the overall theory that contextual factors influence the interpretation of nonverbal behavior. It remains for future research to determine whether the presence or absence of an audience influences the interpretation of a speaker's nonverbal behavior.

This study adopted a novel methodology for generating stimulus materials in the hopes of controlling the verbal portion of a message while capturing unprompted variations in nonverbal behavior from naive speakers. The methodology was developed in order to facilitate the generalizability of any findings to situations outside of the laboratory and it proved to be successful to some degree. Unprompted variations in nonverbal behavior were captured while controlling the verbal portion of the message. Unfortunately, these variations proved to be relatively small. The small differences in nonverbal expressiveness were most likely due to the speakers' nervousness about being video-taped. In the future, it may be possible to remove this obstacle by having speakers state their opinion to a limited audience while being secretly video-taped.

The methodology used in this study provides a means for exploring the effects on observers of differences in unprompted nonverbal behaviors that accompany a verbal message. Most prior research has found it necessary to either eliminate the verbal

channel when presenting video-taped material to observers in order to control for the differences in what is said by the targets, or to use confederates posing different nonverbal behaviors while stating the same verbal message. There are problems associated with both of these approaches. In the first approach, if the verbal portion of the message is a factor that influences the interpretation of nonverbal behavior, then findings from decoding studies that exclude the verbal channel must be generalized to situations that occur outside of the laboratory with caution. In the second approach, having confederates pose nonverbal behaviors introduces two difficulties. The first regards ecological validity; it may be that the posed behaviors do not represent the kinds of patterns that individuals engage in spontaneously. The second difficulty concerns the introduction of a possible confound: by posing nonverbal behaviors, a confederate is engaging in deception and, thus, may be inadvertently 'leaking' other nonverbal cues. There is a substantial literature on the relationship between nonverbal behavior and deception (Ekman, 1985; DePaulo, Stone, & Lassiter, 1985). If nonverbal leakage is occurring in posed studies, it may not be possible to equalize this leakage across nonverbal conditions.

The methodology developed for this study eliminates these difficulties and creates the possibility of controlling the verbal channel while exploring the effects of unprompted variations in a naive speaker's nonverbal behaviors. It may be possible to utilize this methodology in the future to couple encoding and decoding studies together. For example, on encoding question of interest is whether, when speaking to different audiences, (such as ingroups versus outgroups, or superiors versus subordinates)

speakers vary their nonverbal behavior in systematic ways. A related decoding question would be whether an audience is affected by these variations in nonverbal behavior. Using the methodology developed for this study, this pair of encoding and decoding questions could be addressed without eliminating the verbal channel. This would increase the validity of generalizing the findings to settings outside of the laboratory.

Conclusion

Generalizing from the qualified findings in this study must be done with care, but it seems that at least one conclusion can be drawn. Observer goals can lead to variations in the interpretation of even small differences in speakers' nonverbal behavior. Further research is needed to determine under what circumstances these effects occur. Since nonverbal behavior has the characteristics of an ambiguous stimulus, the possibility for biased and erroneous processing certainly exists. Such hypothesized biases could lead to social misunderstandings and even cause escalation in conflict situations.

These findings also have consequences for nonverbal researchers. Researchers who ignore the motivations of judges used to rate nonverbal stimuli run the risk of contaminating their findings with unintended confounds or, at the very least, introducing a source of error variance that will make detecting effects more difficult.

Given the important role that predicting the attitudes of others plays in social interactions, understanding the mechanisms used by individuals to predict another's attitudes is both an interesting and important research objective. While interpreting any

null findings is always a questionable enterprise, it is nonetheless interesting to note that the null findings obtained here suggest that people do not seem to use individual differences in nonverbal expressiveness to diagnose attitude characteristics. Further research is clearly needed to investigate how observers utilize speakers' nonverbal behavior when trying to determine important attitude characteristics such as level of affect and issue involvement.

Other areas for future research include determining which observer goals, among the diverse list that are pursued during communication, lead to variations in the interpretation of speakers' nonverbal behavior. Another possibility is to determine which contextual factors lead to differences in the effects of speakers' nonverbal behavior. As mentioned above, an observer's knowledge about the presence or absence of an audience when a speaker is communicating is one interesting possibility.

APPENDIX A
POSITION STATEMENT

I'm a student at The University of Massachusetts and I'd like to state opinion of the president's proposal.

I am against the proposal and I think that most students would agree with me.

The cost of education is already very high.

Increasing fees could do a great deal of harm.

I think that increasing mandatory fees would make it more difficult for students to afford to go to college.

It would also make life more difficult for students already in school.

APPENDIX B

QUESTIONNAIRE

Please complete the following questionnaire. Read the questions carefully and answer them as thoughtfully as possible. **It is important that you answer the questions in the order that they are presented so that the experiences of all participants are the same. Do not skip forward or go back.** If a question arises while you are filling out the questionnaire, use your best judgment to answer it.

What are you thinking about the speaker and her message? Please write down anything you are and have been thinking about.

Part two

**PLEASE DO NOT BEGIN PART TWO UNTIL
YOU HAVE COMPLETED PART ONE.**

Many of the following questions involve filling out scales. Please read each question carefully and then look closely at the scales. Circle the number on the scale that best represents your answer. The scales are not all the same so be sure to examine them closely before circling your answer.

Circle the number that best corresponds to your answer

1) What is the speaker's attitude towards this proposal? ____ In Favor ____ Against

2) How strong is the speaker's attitude about this proposal?

not at all
strong

extremely
strong

0 1 2 3 4 5 6 7 8

3) How important is this particular issue to the speaker?

not at all
important

extremely
important

0 1 2 3 4 5 6 7 8

4) How persuasive was the speaker's argument?

not at all
persuasive

extremely
persuasive

0 1 2 3 4 5 6 7 8

5) How effectively did the speaker communicate?

not at all
effectively

extremely
effectively

0 1 2 3 4 5 6 7 8

turn to the next page

Circle the number that best corresponds to your answer.

6) How strong was the speaker's message?

not at all
strong

extremely
strong

0 1 2 3 4 5 6 7 8

7) How skilled at public speaking is this person?

not at all
skilled

extremely
skilled

0 1 2 3 4 5 6 7 8

8) In general, how warm is this person in her daily life?

not at all
warm

extremely
warm

0 1 2 3 4 5 6 7 8

9) In general, how assertive is this person in her daily life?

not at all
assertive

extremely
assertive

0 1 2 3 4 5 6 7 8

10) In general, how friendly is this person in her daily life?

not at all
friendly

extremely
friendly

0 1 2 3 4 5 6 7 8

turn to the next page

Circle the number that best corresponds to your answer.

11) In general, how extroverted (outgoing) is this person in her daily life?

not at all
extroverted

extremely
extroverted

0 1 2 3 4 5 6 7 8

12) How deceptive was the person being?

not at all
deceptive

extremely
deceptive

0 1 2 3 4 5 6 7 8

13) How dynamic was the speaker's presentation?

not at all
dynamic

extremely
dynamic

0 1 2 3 4 5 6 7 8

14) How likely do you think it is that a proposal like this would be instituted at the
University of Massachusetts next year?

not at all
likely

extremely
likely

0 1 2 3 4 5 6 7 8

turn to the next page

circle the number that best corresponds to your answer

The following set of questions regard what you think the person was feeling while speaking on the video tape.

15) How aroused (excited) was the person feeling?

not at all
aroused

extremely
aroused

0 1 2 3 4 5 6 7 8

(NOTE THAT THE NEXT TWO QUESTIONS USE A SLIGHTLY
DIFFERENT SCALE)

16) How positive or negative was the person feeling?

extremely
negative

extremely
positive

-4 -3 -2 -1 0 1 2 3 4

17) How dominant or submissive was the person feeling?

extremely
submissive

extremely
dominant

-4 -3 -2 -1 0 1 2 3 4

18) How anxious was the person feeling?

not at all
anxious

extremely
anxious

0 1 2 3 4 5 6 7 8

THE NEXT SET OF QUESTIONS ARE ABOUT YOUR BELIEFS

19) What is the your attitude towards this proposal? ____ In Favor ____ Against

turn to the next page

circle the number that corresponds to your answer

20) How strong is your attitude about this proposal?

not at all
strong

extremely
strong

0 1 2 3 4 5 6 7 8

21) How important is this particular issue to you?

not at all
important

extremely
important

0 1 2 3 4 5 6 7 8

22) What do you think the attitude of the average UMASS student towards this proposal would be? (check one) ☐ In Favor ☐ Against

23) How strong do you think the average UMASS students attitude about this proposal would be?

not at all
strong

extremely
strong

0 1 2 3 4 5 6 7 8

24) What was your main task in watching the video?

☐ Evaluate what kind of person the speaker is in her daily life.

☐ Evaluate the strength and effectiveness of the speaker's message.

25) Do you know the person in the video? ☐ Yes ☐ No

PLEASE LET THE EXPERIMENTER KNOW WHEN YOU HAVE
COMPLETED THE QUESTIONNAIRE AND THEN WAIT FOR THE
OTHERS TO FINISH.

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